

A HISTORY OF ARMY AVIATION LOGISTICS

1935-1961

The Search for a Short-Range Liaison Airplane

1939-1941

By

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## THE SEARCH FOR A SHORT-RANGE LIAISON AIRPLANE: 1939-1941

### Proem

The appearance of the Fiesler-Storch in mid-1937 revived American interest in the small, slow-speed, high-lift, short-range liaison (SRL) airplane. This concern had appeared at Mitchel Field as early as 1934, and the Air Corps had repeatedly called for the development of such an aeroplane, but the Chief Executive and the Army staff, had, respectively, channeled Army observation towards rotary-winged and high-speed, heavily-gadged observation aerial vehicles. The former, however, proved to be far too crash-prone, and the latter were far too expensive to risk over the modern, bristling-with-bullets, battlefield. Fortuitously, the failings of this duo coincided with the Nazi's SRL success.

### The Legacy

#### O-46 and O-47 Tests

The mere passage of two years between the onset of a worthy rival and even the barest initiation of an Army response would not faze anyone remotely acquainted with the Army bureaucracy. Accordingly, one finds that, in the late spring of 1939, the central observation issue was not new SRL airplanes, but rather the conclusion of a long series of service tests (STs) between the 1935 Douglas entry, the O-46, and the largest all-purpose observation airplanes constructed to date, the 1937 North American O-47. The O-46 proved too slow, too difficult to maintain, and too constrictive in space. The O-47, conversely, was fast, carried the latest cameras and ancillary equipment, and featured a

three-man crew; its machine gunner freed the observer just for observation duties.<sup>1</sup>

As indicated in this work's precursor,<sup>2</sup> the majority of the ground arms, and the National Guard Bureau in particular, not only cast their lots with the more powerful, faster, and better-equipped airplane, but actually looked ahead towards even more capable models, as a sample of these mid-1939 proposed military characteristics (MCs) for an observation, corps and division (O,C&D) type airplane demonstrate:

<u>Characteristic</u>	<u>Minimum Capability</u>	<u>Desired Capability</u>
Maximum Speed	200 <sup>1</sup>	250 <sup>1,2</sup>
Endurance	2½ hours	2½ hours
Photographic Range	12 square miles	12 square miles

<sup>1</sup>Miles per hour (mph)

<sup>2</sup>The latest observation model, the O-47A, had a top speed of 221 miles per hour.<sup>3</sup>

The O-47A fit one of the two types of observation airplanes approved by the Board of Observation Airplanes. Though the Approved Airplane Program of 1936, which the board reaffirmed in February of 1939, called for three types

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<sup>1</sup>Office, Chief of the Air Corps (OCAC), Comparative Report of O-46A and O-47A Type Airplanes, Washington, May 10, 1939.

<sup>2</sup>See Howard K. Butler, Army Air Corps Airplanes and Observation, 1935-1941, Saint Louis, 1990, Chapter IV.

<sup>3</sup>1) Letter (Ltr), Major General (MG) H. H. Arnold, Chief of the Air Corps (CAC), to The Adjutant General (AG), June 10, 1939, subject: Observation, Corps and Division, Type. 2) Howard K. Butler, Observation Aircraft, 1935-1945, History Study Number 9, St. Louis, 1988, p. 7.

of observation airplanes,<sup>4</sup> funds throughout this time allowed but two. The three types were:

"Liaison (short-range) (for command, courier, and division artillery missions); Corps and Division (for Corps and Division observation missions); Army Reconnaissance (Primarily for Army missions but also for many Corps and Division missions)."<sup>5</sup>

The board resolved the quandary by allotting the last two missions to one airplane, the O-47, even though it felt that this airplane was far too slow to meet the top speeds of 350 to 400 mph desired of a reconnaissance airplane.<sup>6</sup> The resultant two-type observation fleet thus wanted only one " . . . airplane of a much simpler shape and less costly than the O-47."<sup>7</sup>

#### A Lane Opens

Never really in doubt, the O-47A's triumph officially received its laurels when, on General Arnold's prodding, the Observation Board submitted its report on the O-46, the O-47, and a Bellanca for Corps and Observation Airplane duties.<sup>8</sup>

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<sup>4</sup>Memorandum (Memo), Assistant Chief of Staff Brigadier General (BG) George P. Tyner, G-4 [Hereinafter cited as G-4, G-3, and so forth], for the AG, February 20, 1938, subject: Military Characteristics of Aircraft - Reconnaissance, Army, Type.

<sup>5</sup>Memo, Major (MAJ) W. A. Wood, Jr., General Staff College, for Lieutenant Colonel (LTC) Maxwell, [?], August 9, 1939, subject: Board Proceedings on Observation Aircraft.

<sup>6</sup>Ltr, MG H. H. Arnold, CAC, to the AG, June 8, 1939, subject: Two-Engine, Multi-Place, Land Airplane for Reconnaissance, Army, Type.

<sup>7</sup>Proceedings of a Board of Officers Appointed by the Following Orders, May 18, 1939, subject: Board Approved two types, not three.

<sup>8</sup>Memo, MG H. H. Arnold, CAC, for Colonel (COL) Tinker, President, Observation Board, May 10, 1939, subject: Evaluation of Corps and Division Observation Airplane.

The O-47A placed first, closing two-thirds of the observation airplane vacancies. Distribution followed, with, naturally, the politically powerful National Guard Bureau (NGB) receiving this airplane on a priority basis, and 10 more of the first batch going to Mitchel and 14 others to Hawaii.<sup>9</sup>

Though interest could now shift to the slow-speed, high-lift airplane, the heavier, faster, equipment-filled air vehicle would yet command far more in money and even more in numbers, as the Air Corps Expansion Program (ACEP) allotments in this category show:

<u>Type Airplane</u>	<u>Numbers and Model</u>	
Observation, Corps and Division	74	O-47Bs
Observation, Corps and Division	203	O-52s <sup>1</sup>
Liaison, Corps and Division	250	Observation <sup>1,2</sup> Liaison

<sup>1</sup> ACEP funded

<sup>2</sup> Theoretically there was no model yet chosen for this type, although the G-4 clearly favored what would be the ultimate choice, the O-49.<sup>10</sup>

### SRL Airplane

#### The Pie and the Pretenders

The April 1939 ACEP called for 250 new observation airplanes, 144 of which were, at G-4 insistence, to be short-range liaison airplanes.<sup>11</sup> Three firms submitted SRL candidates, being:

- ° the O-49 (Stinson) Observation Liaison, with an R-680 Lycoming Engine;
- ° the YO-50 (Bellanca) Observation Liaison, with an R-985-21 Pratt and

Whitney Engine;

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<sup>9</sup> Teletype, MAJ Robert Knuch, Air Corps (AC), Operations Section, OCAC, to the Field Services Section, OCAC, May 31, 1939, subject: [Disposition of] NG numbers 39-89 to 39-138 inclusive (50).

<sup>10</sup> Reading and Routing Sheet, OCAC, August 28, 1939, subject: Status of Observation Airplanes.

<sup>11</sup> Memo, BG George P. Tyner, G-4, for the AG, December 4, 1939, subject: Courier Type Airplanes, Short Range Liaison (Light).

° and the YO-51 (Ryan) Observation Liaison, with a V-770-1 Ranger Engine.

Each of the manufacturers offered two-place, largely fabric-covered, strut-braced, high-wing monoplanes which carried only a radio and minimal instruments and which were capable only of sea-level operations.<sup>12</sup>

The G-4 predicted, correctly, that the O-49 was the best of the bunch,<sup>13</sup> but he did note that the Stinson 105-C might also suffice for the SRL part.

#### Field Artillery and the Pie

The G-4 did not singly select or set out parameters. Each of the ground arms submitted lists of desirable characteristics and gear for the SRL airplane, and they recommended choices. The Field Artillery, which would become the most interested party of all, asked for a " . . . simple and rugged . . . " little airplane, with " . . . no armor, no armament, and no fixed photographic equipment, . . . [which would operate] primarily over our lines, [relying upon our] anti-aircraft defenses." The artillery's SRL ship should be able to fly in a 30 to 125 mph range, reach 6,000 feet in altitude, have dual controls, land and take-off in a small field, and possess good visibility.<sup>14</sup>

The Field Artillery, more than the others, wanted special treatment. Paradoxically, on the same day that it called for an unaffected aircraft, it took the Air Corps to task for making " . . . no substantial progress . . . in this matter [observation aircraft development] since the war. . . . "

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<sup>12</sup>CAC Annual Report, FY 1939, pp. 68-69. This report mistakenly, according to Mr. Dana Bell of the Smithsonian, reverses the Ryan and Bellanca designations, that is, as the YO-50 and YO-51, respectively.

<sup>13</sup>Memo, BG Tyner, G-4, for the AG, December 4, 1939, memo cited.

<sup>14</sup>Memo, COL R. F. G. Hugh, Field Artillery (FA), Executive, Office of the Chief of Field Artillery (OCFA) for MAJ Hodge, Office of the G-3, May 22, 1939, subject: Air Observation for Artillery.

It further listed three requirements . . .

"a. Organization. That Field Artillery Brigades be provided organically with a flight of planes designated solely as 'Field Artillery Flying OP's.'

"b. Observers. That observers be Field Artillery Officers.

"c. Equipment. That for the time being the planes be secured, operated and maintained by Air Corps personnel."

. . . which a board that it had expressly formed to . . . study the airplane requirements for observation aviation . . . " had determined.<sup>15</sup>

The Air Corps, in the person of General Arnold, penned an almost assuredly tongue-in-cheek reply for the Field Artillery . . .

"I am awfully glad you joined in with the Air Corps to help us solve this problem . . . We have to please the customer and you are the customer."

In the same correspondence, but to the Materiel Division alone, General Arnold expressed some other sentiments. Noting that the Cavalry, the Infantry, and the Coast Artillery had concurred with its conclusions and recommendations on the O-46, O-47, and autogyro comparison tests, but that the Field Artillery had not, General Arnold observed that the nonconcurrence was not only purely negative, as it offered no alternatives, but that it was also contradictory.

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<sup>15</sup>Ltr, COL R. F. G. Hugh, FA, Executive, OCFA, to the CAC, May 22, 1939, subject: [Field Artillery Airplane Requirements].

Fort Sill, the Field Artillery's home, had, for instance, favored the three-place O-47 without cameras, but nonetheless it also called for the installation of "darkrooms," or photographic development compartments, aboard each observation airplane.<sup>16</sup>

Confronted with such contradictory wants, General Arnold proposed the use of mixed types of airplanes in each division squadron, with an as-yet-undetermined number of observation and liaison aircraft in each.<sup>17</sup> Not novel,<sup>18</sup> General Arnold's scheme was really naught but an attempt to reconcile all parties by offering them, in general, and the caisson men in particular, a little of both. Compromise, however, became daily more difficult as Verdurant's ideas circulated about the batteries and, by the year's end, Field Artillery had begun to lay out bracketing fires around the Air Corps.<sup>19</sup>

The Air Corps could not, then or later, get what the Field Artillery really wanted--a mobile aerial O.P. There were two reasons for this. One was money; until the war, dedication of any airplane, no matter how small, to one purpose

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<sup>16</sup> Memo, MG H. H. Arnold, CAC, through the Chief Materiel Division, to the AG, June 7, 1939, subject: Military Characteristics of Observation Aircraft - copy of proceedings.

<sup>17</sup> Ltr, MG H. H. Arnold, CAC, to the AG, June 28, 1939, subject: [Corps and Division Observation Types].

<sup>18</sup> The G-4, as an instance, had suggested, such a combination in 1937. See Butler, Army . . ., op. cit., p. 211.

<sup>19</sup> Even the Assistant Secretary of War (ASW) began to treat the two as potentially warring sovereign states: Ltr, The Honorable Louis Johnson, ASW, to Mr. Albert I. Lodwick, Senior Vice President, Saint Louis Aviation Monograph Lithograph, November 8, 1939, subject: [Liaison Between the Air Corps, the Infantry, and the Artillery [sic]].

was far too dear. The other explanation lay in the nature of the observation mission itself. Observation implied the conduct of a variety of tasks, most of which were to take place beyond the battleline; the Field Artillery's narrow focus meant that its airplanes could not truly use the observation designation.

The Chief of Field Artillery had no dilemmas about such concerns. Adopting, and adapting, General Arnold's mixed proffer, he chose both types of airplanes:

"1. The Field Artillery is primarily interested in an airplane that can be used for the adjustment of artillery fire. This mission is not included in the military characteristics.

"2. The take-off and landing performance characteristics included herein are such that may be proven objectionable.

"3. The Chief of Field Artillery concurs in the procurement, for use with the Field Artillery, of a limited number of airplanes of the general type [light commercial] described, provided this airplane possesses suitable observation provisions . . . [such as a] radio . . . further, that it is understood that these planes are procured solely for the purpose of conducting tests to determine their suitability for Field Artillery use. Also, that this procurement will not be made in lieu of any of the liaison airplanes of the O-49 type . . . now scheduled for procurement."<sup>20</sup>

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<sup>20</sup>Ltr, COL Fred [sic] C. Walton, FA, Executive, OCFA, to the OCAC, December 5, 1939, subject: [Light Commercial O-49 Airplane Procurement].

### The Pie Goes Into the Oven

For the nonce, the Chief of Field Artillery would have to make do with an O-49 or its like for his observation airplane flavoring. On August 17, 1939, Stinson received a preliminary Air Corps Contract, 130985,<sup>21</sup> which, after subsequent clarification, two weeks later, called for the purchase of 144 airplanes, all of which were to be O-49s; two smaller contracts specified three each Bellanca YO-50s and Ryan YO-51s.<sup>22</sup> On September 12, 1939, a Circular Proposal (CP), 39-785, went out for the SRL's Observation, Corps and Division, companion, which would be the Curtiss O-52.<sup>23</sup>

As the O-47 before it, the O-49 clearly had the pole position and proprietary rights on the inside track. It was, nonetheless, technically but one of several horses in the hunt, and, as the overtaxed aircraft industry's slow production response turned the heat into a cross-country affair,<sup>24</sup> the slate of late entries that could meet these relatively simple MCs would almost inevitably grow:

<u>Characteristics</u>	<u>Required</u>	<u>Desired</u>
Top Speed	100 <sup>1</sup>	125 <sup>1</sup>
Endurance	2 hours	3 hours
Service Ceiling	9,000 <sup>2</sup>	12,000 <sup>2</sup>

<sup>1</sup> miles per hour  
<sup>2</sup> feet

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<sup>21</sup> Message (Msg), BG George H. Brett, Wright Field, to the CAC, August 17, 1939, subject: Teletype A-3057.

<sup>22</sup> 1) Msg (Private), Procurement Section, Wright Field, to Contract Section, Wright Field, August 31, 1939, subject: [Buy 144 More]. 2) Writer's Note: More referred to the addition of 144 SRL airplanes to the 106 O-47s already under contract to reach 250 total, the amount set out in the ACEP of April 1939.

<sup>23</sup> Public Announcement, War Department (WD), September 12, 1939, subject: C.P. 39-785 Observation, Corps and Division.

<sup>24</sup> As of late 1939, the Air Corps had accepted no SRL airplanes from ACEP outlays. See: Memo, MG H. H. Arnold, CAC, to General (GEN) Marshall, Chief of Staff (CS), November 25, 1939, subject: Air Corps Expansion Program.

Each entry should carry a " . . . Signalling Pistol and Ammunition, Drop Message Bags, [a] radio, [and the] bare minimum [of] flying rudiments . . . " <sup>25</sup>

The Stinson O-49 suffered, moreover, from its relatively high price tag of nearly \$20,000 per unit. <sup>26</sup> This made that company's own lighter model, the C-105, an attractive alternative to the Army, <sup>27</sup> and the Army would, in August of 1940, buy six of these aircraft. Stinson, in the meantime, was, as an element of the Aviation Manufacturing Corporation of New York, not immune to the production delays occasioned by the aforementioned contract overloads, <sup>28</sup> and, as 1940 began, the Army had no O-49s on hand. <sup>29</sup>

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<sup>25</sup> 1) Disposition Slip (DS), G-4, to the AG, December 4, 1939, subject: Military Characteristics of Courier Type Short-Range Liaison Airplane. 2) Memo, COL R. D. Matheson, Acting G-4, for the AG, December 15, 1939, subject: Military Characteristics of Aircraft - Commercial Type Airplane, Short Range Liaison (Light).

<sup>26</sup> Writer's Note: \$2,778,435.30 for 144 O-49s, or \$19,155.93 1/9 each. See: Proceedings of a Board of Officers Convened to Inspect and Determine the Flight Characteristics of Stinson Model C-105 Airplane, Wright Field, November 15, 1939.

<sup>27</sup> Memo, LTC F. B. Mallon, Executive, G-4, for the Production and Engineering Branch, subject: Purchase of Planes for the Armored Corps.

<sup>28</sup> Ltr, The Honorable Louis Johnson, Acting ASW, to Mr. William B. Knudson, President, General Motors Corporation, February 12, 1940, subject: [Production Delays].

<sup>29</sup> Chief, Experimental Engineering Service, Technical Data Section, Materiel Division, Wright Field, to [Distribution], January 1, 1940, subject: [Airplane Types].

## 1940: A Year of Delay

### The Pacts

The ACEP notwithstanding, the peacetime budget-paring instincts of two decades remained very much on the scene and, as the months passed, the observation airplane program felt their presence. By April of 1940, the 150 airplanes of August 1939 had become 106, viz:

<u>Firm</u>	<u>Airplane</u>	<u>Contract</u>	<u>Number of Units</u>
Stinson Aircraft Division, Aviation Manufacturing Corporation	O-49	W535 ac-13098	100
Bellanca Aeronautical Corporation	YO-50	W535 ac-13101	3
Ryan Aircraft <sup>30</sup> Corporation	YO-51	W535 ac-13148	3

### The Reduction

In March 1940, the 106 promised to become far less, as budget problems forced reductions in the ACEP. On the 20th of that month, MG Arnold, CAC, recommended, on the basis of established priorities, that all of the cuts take place in the SRL airplane category, eliminating all 144 buys called for by Circular Proposal 40-550.<sup>31</sup> MG Arnold's suggestion<sup>32</sup> wended its way upwards and,

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<sup>30</sup>Ltr, BG George H. Brett, Chief, Materiel Division, to the CAC, March 22, 1940, subject: Circular Proposal 40-550, Airplanes, Corps and Division, Short-Range Liaison, Observation.

<sup>31</sup>Memo, MG H. H. Arnold, CAC, to the AG (through the ASW), March 22, 1940, subject: Corps and Division, Short-Range Liaison, Observation Airplanes, C.P. 40-550.

<sup>32</sup>General Arnold supported the O-49; later he would recommend that the Army exercise its option to buy more of these airplanes: Memo, MG H. H. Arnold, CAC, for the ASW, April 10, 1940, subject: Option-Contract W535 ac-13098, for Additional O-49 Airplanes.

on April the 4th, 1940, came back as a Congressionally-mandated cut of 103 airplanes, all of the SRL type.

The loss obviated the planned deployment of the SRL airplanes . . .

<u>Squadrons</u>	<u>Airplanes Per Squadron</u>	<u>Total</u>
41	3	123
	100% Spares	<u>127</u>
		250 <sup>1</sup>
		<u>106</u> (O-47s)
		144

<sup>1</sup>Concurred in by the Infantry, the Cavalry, the Field Artillery, and the Signal Corps.<sup>33</sup>

. . . on a priority basis to Marshall, Lawson, and Post Fields, at the respective homes of the Cavalry, Fort Riley; the Infantry, Fort Benning; and the Field Artillery, Fort Sill.<sup>34</sup>

What one air man had suggested to be taketh away, another proposed to returneth. Although The Congress had made the cut, . . .

"Immediate procurement of airplanes set up in the Air Corps Program is to be limited to operating planes plus a 15% operating and depot reserve, with the procurement of the balance deferred, . . . "

. . . the new G-3, BG Frank M. Andrews, former Chief of the GHQ Air Force, believed that its SRL airplane effects could be side-stepped . . .

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<sup>33</sup>1) Memo, G-4 to the AG, April 4, 1941, subject: Short-Range Liaison Airplanes.  
2) Writer's Note: The G-4 memorandum says 109 airplanes.

<sup>34</sup>Record and Routing Sheet, Training and Operations Division, OCAC, to the Materiel Division, March 20, 1940, subject: Change in allocation of priority of deliveries of O-49, O-50, and O-51 airplanes.

" . . . [if one considered the 250 observation airplane in the ACEP as all SRL airplanes,] then the requirements for the initial procurement of liaison planes would be reduced to a total of 142 . . . [or only two less than now under contract to Stinson.]"

One hundred and six airplanes were now on contract, and \$767,000 remained to buy the other 36.<sup>35</sup>

The G-4, nonconcurred. Such a step, though "desirable," would, he noted, also be "illegal," for one could not ignore the 106 O-47s under contract and in delivery and substitute SRL airplanes for them,<sup>36</sup> especially as all 250 liaison airplanes, and 206 regular observation airplanes besides, had each and every one been supplemental additions to the ACEP.<sup>37</sup> Accordingly, the G-4 told the Air Corps to trim the SRL airplane allotment from 250 to 147<sup>38</sup> and, four days later, April the 10th, the Deputy Chief of Staff and the CAC met and decided to use the \$767,000 to buy 35 O-49s, leaving a deficit of 109 such

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<sup>35</sup> Memo, BG Frank M. Andrews, Assistant Chief of Staff, Operations and Training Division, G-3, for the G-4, April 6, 1940, subject: [Short-Range Liaison Airplane Program].

<sup>36</sup> 1) Memo, BG R. C. Moore, G-4, to the G-3, April 6, 1940, same subject.  
2) Memorandum for Record (MFR), BG L. D. Garber, Acting G-4, April 10, 1940, subject: G-4 Memorandum G-4/27397-31, dated April 4, 1940, subject: Short Range Liaison Airplane Program.

<sup>37</sup> Memo, COL John V. N. Schulz, Director of Current Procurement, to the ASW, March 8, 1940, subject: Approved Air Corps Procurement Program.

<sup>38</sup> DS, MAJ Hugh P. Hester, Current Procurement, to the CAC, May 14, 1940, subject: [Reduction in 5500 Airplane Program].

aircraft, and, further, they postponed the SRL airplane service tests until May 1, 1941.<sup>39</sup>

### Competition Broadens

The thirteen-month suspension of the tests, from April 1940 to May of 1941, allowed, and even encouraged, the emergence of a host of rivals. Even before the delay, the O-49, had, as discussed, both the Bellanca YO-50 and the Ryan YO-51 as opponents, and the WD showed, at first, great interest in, and many kind words for, the latter:

"The YO-51 is the first plane especially designed to support the needs of the Infantry Division, . . . [and it acts] not only to cooperate with the Infantry itself but also to adjust artillery fire . . . "<sup>40</sup>

As late as March 1940, however, none of these SRL airplanes was ready for ST,<sup>41</sup> lending even more substance to General Arnold's deferment suggestion and added impetus to a search for alternative airplanes to meet the Army's renewed commitment to three types of observation airplanes.<sup>42</sup> The ground

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<sup>39</sup> 1) Memo, BG Moore, G-4, April 22, 1940, subject: Procurement of Stinson O-49 Airplane. 2) Disposition Form (DF), BG R. C. Moore, G-4, for the AG, April 23, 1940, subject: C.P. 40-550, Airplanes, Corps and Division, Short-Range Liaison, Observation. 3) MG William W. Dick, AG, for the G-4, May 4, 1940, subject: [Actual Reduction to 5,397]. 4) Writer's Note: The clarification on the ACEP reduction--whether 109, or 108, or 103, at last fixed on the final number.

<sup>40</sup> War Department Release, Ryan Observation Plane Type YO-51, February 24, 1940.

<sup>41</sup> 1) Ltr, MG William W. Dick, AG, to the ASW and the CAC, in turn, March 11, 1940, subject: [Nonsuitability and Nonavailability of SRL Airplanes for Tests]. 2) Ltr, COL John V. N. Schulz, Corps of Engineers (CE), Director of Current Procurement, Office of the ASW (OASW), April 20, 1940, [same subject]. 3) Ltr, BG B. K. Yount, Assistant CAC, to the AG, April 6, 1940, subject: Service Test of Short-Range Liaison Airplanes.

<sup>42</sup> Ltr, CAC to OCFA, June 28, 1940, subject: [Three Types of Observation Airplanes].

arms wanted airplanes now, and, in consideration of cheapness and availability, small commercial airplanes seemed to be the only immediate remedy. Investigation, however, proved this assumption untrue, per these August 1940 tests results:

<u>Builder</u>	<u>Number of Test Aircraft</u>	<u>Points</u>	<u>Cost Per Airplane</u>
Ryan	1	677.35	\$31,728.00
Engineering and Research Corporation	2	548.73	3,331.50
Fairchild	1 <sup>1</sup>	526.34	6,366.00
Stinson	1 <sup>1</sup>	504.88	6,590.00
North American	1	477.17	14,980.00
Bellanca	1	433.04	6,535.00
Rearwin	2	396.89	4,705.00

<sup>1</sup>C-105

Four of these exceeded the 500 "cut" and all were "off the shelf commercial articles." No major award followed, though, because the Ryan entry cost too much and the other three were "impossible to procure" in the needed numbers. The Materiel Division therefore recommended that only six Stinsons be bought; in a quantity of six, the cost would drop to \$3,300 per unit.<sup>43</sup>

General Arnold forwarded the division's recommendation to the AG for approval.<sup>44</sup> The AG endorsed the request the same day, August the 17th, upon which General Arnold forwarded it.<sup>45</sup> Aware of these proceedings, the G-4 had

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<sup>43</sup> Ltr, BG George H. Brett, Chief, Materiel Division, to the CAC, circa August 21, 1940, subject: Immediate Procurement of Six (6) Stinson Model C-105 Short-Range Liaison Airplanes.

<sup>44</sup> Request, MG H. H. Arnold, CAC, to the AG, August 17, 1940, subject: Immediate Procurement of Service Test Quantity of Short-Range Liaison Airplanes (Commercial Type).

<sup>45</sup> 1) Ltr, MG William W. Dick, AG, to the CAC, August 17, 1940, subject: [Approval]. 2) 2nd Indorsement, LTC Ira C. Eaker, Executive, OCAC, August 22, 1940, [same subject].

already, the day before, authorized the purchase of the C-105s,<sup>46</sup> and the order went forward August the 22nd.<sup>47</sup>

Six airplanes were no more than a stop-gap to ground arms demands. Surcease, gratefully, came that very month. A new allotment enabled the Army to buy the rest of the O-49 type airplanes, lost in the April cut.<sup>48</sup> The funds influx did not, however, undo the postponement of the SRL airplane tests until May the 1st, 1941.<sup>49</sup>

#### 1940: Impedimenta

##### Concurrent Observation Airplane Developments

While the SRL airplane program threatened to go into a stall, the other, heavier types of observation airplane flew onwards and upwards. As the O-47's ranks filled, the Air Corps turned first to the O-52, weighing more than three

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<sup>46</sup> Memo, LTC F. B. Mallon, Executive, G-4, for the Production and Engineering Branch, August 16, 1940, subject: Purchase of Planes for the Armored Corps.

<sup>47</sup> 2nd Indenture, MAJ Hugh B. Hester, Quartermaster (QM), August 22, 1940, Assistant to the Director of Purchases and Contracts, [same subject].

<sup>48</sup> 1) Memo, COL E. Reybold, Acting G-4, for the G-3 and the War Plans Division in turn, October 22, 1940, subject: Modification in the Expenditure Program Relating to the Munitions Program of June 30, 1940 as it Relates to Observation Airplanes. 2) Memo, COL E. Reybold, Acting G-4, for the CS, October 28, 1940, same subject. Approved by the CS, GEN George C. Marshall, November 2, 1940. 3) There was some political interest in O-49 production: Telegram, SW to the Honorable Harry Byrd, United States Senate, August 21, 1940, subject: [O-49 Production Line May the 1st].

<sup>49</sup> Memo, COL V. Meyer, Acting G-4, for the AG and the Chief of Field Artillery, January 12, 1941, subject: Service Test of Short-Range Liaison Airplanes.

tons, and ordered 203 of these in Fiscal Year 1940;<sup>50</sup> these were coming on board by the end of 1940.<sup>51</sup> The Air Corps' next acquisition was the longer and heavier O-53, which required a 7,400-foot long runway.<sup>52</sup> The O-53 was part of a very large augmentation of ground support aircraft to include:

<u>Numbers</u>	<u>Airplane</u>
60	A <sup>1</sup> -20
143	A <sup>1</sup> -20A
999	A <sup>1</sup> -20B
<u>775</u>	O-53
Total	1,977 <sup>53</sup>

#### <sup>1</sup>Attack

The typical figure-juggling ensued and, by October 1940, the 1,977 had become " . . . 1,489 observation, two-place, A-20 airplanes . . . " out of the total 18,641 Airplane Procurement Program. On October the 18th, per contract of October the 3rd, the Air Corps exercised an option for " . . . 714 O-53 airplanes" in lieu of these A-20s. A further cut left a balance of 714 observation airplanes, divided thusly:

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<sup>50</sup> Memo, BG R. C. Moore, G-4, for the CS, February 20, 1940, subject: Military Characteristics of the Observation, Corps and Division, Type Aircraft. Writer's Note: FYs until FY 1976 began on July 1, six months in advance of the calendar year, and ended June 30; for instance, FY 1940 began on July 1, 1939.

<sup>51</sup> Memo, COL R. C. Conder, Chief, Intelligence Division, for the OASW, December 23, 1940, subject: Press Release on O-52.

<sup>52</sup> Memo, LTC Robert A. Case, G-4, for BG Reybold, Acting G-4, circa March 28, 1941, subject: Status of Tactical Airplanes, March 1, 1941.

<sup>53</sup> Ltr, Materiel Division to the OCAC, February 2, 1940, subject: Allocation and Priority of Delivery of A-20 Series and O-53 Model Airplanes.

"182 liaison airplanes of the old<sup>1</sup> O-49 type"

312 P-40s (Reconnaissance)

160 Navy dive bombers SBD-2

60 P-35s

<sup>1</sup>Even though they would not be type classified as standard until October 11, 1941.<sup>54</sup>

Substitution of the O-53s for the A-20s did not entail much loss of swat; the O-53s, which were never built, would have been converted A-20s.<sup>55</sup>

#### Adverse Combat Reports

The continued introduction of ever-more complex observation airplanes signalled not just an obsequiousness to applied science, but, in addition, it measured reaction to the European war, which seemingly spelled finis to the light, unarmed scout airplane. As BG [?] Delos C. Emmons, AC, reported in October of 1940:

"We had the opportunity of talking with several commanders who had served in France prior to the evacuation from Dunkirk; they are definitely of the opinion that the days of the Corps and Division types, as we know it, has [sic] gone forever. They say that airplanes of the puddle-jumper type, as we are building, cannot maneuver in the air against hostile fighters . . .

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<sup>54</sup>Ltr, MAJ B. E. Meyers, AC, Executive, OCAC, to the AG, October 18, 1940, subject: Modification in 18,641 Airplane Procurement Program

<sup>55</sup>Report, [COL?] W. C. Potter, Executive, FA, OCFA, to the AG, December 18, 1940, subject: [Bombardment in O-53s].

[They recommend, instead] . . . very fast, light bombardment [airplanes] which can be used on reconnaissance missions and for bombing. This airplane must be well defended, well armored, equipped with de-icing equipment and . . . be [a dive bomber.] In spite of all this [testimony], there is a demand by the artillery for the Stinson 111 to be manned by artillery personnel."

General Emmons concluded that . . .

" . . . Observation aviation as a type must not be supported. It cannot function under modern combat conditions. In its place must be a fast, well armed, light bomber, capable of carrying an adequate bomb load and fitted with means for aerial plotting and de-icing equipment."<sup>56</sup>

General Emmons' views worked their way to General Marshall. Unfortunately for his cause, General Emmons included a not-too-oblique plea for a separate Air Force, remarking that he had been " . . . forcibly struck by the Air Force [sic] of Great Britain . . . [and believed] that the British are satisfied with . . . [this arrangement as] the answer."<sup>57</sup> The staff took note, but no action. The net outcome was but the foundation of the standard Air Corps

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<sup>56</sup> Memo, [LTC?] George E. Stratemeyer, for MG B. K. Yount, Chief, Plans Division, OCAC, for the CAC, October 9, 1940, subject: Observation Aviation.

<sup>57</sup> Notes on Assistant Chief of Staff Conference, Secretariat, September 23, 1940.

position on the vulnerability of the SRL airplane in combat; the Air Corps would be no more successful in squashing the O-49's rivals than the Field Artillery would be in its prewar attempts to pass these same foes off as acceptable, or even superior, substitutes for the O-49.

Instead, a remarkably lengthy and languid deployment and service test ensued. During this time, a myriad of would-be SRL airplanes appeared but, somehow predictably, the O-49 would emerge as the winner. That there was any seeming choice at all could be laid to the difficulties, at least as much mental as physical, felt by the aircraft industry when it tried to wrench itself from the easy-going days of peace to, in effect, mobilization. When that industry failed, from April of 1939 to December 1941, and even beyond, to do so, the ground arms reluctantly called for the use of commercially available light airplanes now, rather than O-49s perhaps never.

#### 1941: Turbulence and Tests

##### Air Corps Independence

However much they might carp, the ground arms could not, until early 1941, justifiably blame the under-their-thumbs Air Corps for the want of a sufficient number of satisfactory SRL airplanes. Most of the fault, indeed, lay with themselves; their haggling over the military characteristics of such aircraft and their repeated insistence upon as-yet technologically infeasible rotary-winged autogyros and helicopters greatly helped the quest for the O-49 consume over four years. Indeed, the SRL airplanes fared about as well as any would-be air acquisitions during these years, and they did far better than that supposed staple of strategy, the four-engined bomber.

About this time, however, happenstances beyond the Air Corps' mastery began to undo its shackles. The shaper of these events was the man in the oval

office who, when confronted by the isolation of America in its hemisphere by the Axis, turned to the long-range, four-engined "strategic" bomber as the resolver of the impasse. Air Corps attempts at autonomy or even freedom from the Army had gradually come to fasten upon the missions which this behemoth could essay but, as recently as October of 1940, when General Arnold had asked for a separate air staff, its labours had come to naught.<sup>58</sup>

An altogether difficult outcome now came about. Emboldened by the President's resolve, the Air Corps, on the 26th of March, complained directly to General Marshall that . . .

" . . . it was very difficult to get action from G-4 and G-3 on Air Corps matters . . . General Brett [of the Air Corps] indicated that he thought Air Corps development was primarily and essentially an Air Corps matter and not a matter for the General Staff . . . [General Marshall asked] General Brett . . . to submit an outline in detail of how he believed Air Corps matters should be handled."<sup>59</sup>

General Marshall took only two days to unloose the Air Corps:

"1. The Chief of the Air Corps will hereafter program for final action all papers, studies, memoranda, etc., pertaining to primarily Air Corps matters which heretofore have been processed by the War Department General Staff,

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<sup>58</sup> Wesley F. Cravens and James Lea Cate, eds., The Army Air Forces in World War II, Vol. VI: Men and Planes, Chicago, 1955, pp. 17-18.

<sup>59</sup> Notes on Assistant Chief of Staff Conference, Secretariat, COL Orlando Ward, March 26, 1941, subject: Conference Held with General Brett, General Arnold, General Moore and the Chief of Staff, Wednesday, March 26, 1941.

with the exception of those pertaining to [the] War Plans Division and G-2.

"2. Concurrences from divisions of the General Staff in matters requiring consultation will be obtained by the Deputy Chief of Staff (General Arnold).

"3. The Deputy Chief of Staff (General Arnold) is authorized to issue directives in the name of the Secretary of War and the Chief of Staff on all Air Corps matters for which they are approved policies."<sup>60</sup>

General Marshall's directive's most telling impact in the SRL chase meant that, for the first time, the G-4 could " . . . no longer supervise procurement by the A.C."<sup>61</sup>

The Air Corps did not execute an immediate volte-face away from its pre-dominant ground support interest. Plans and policies remained rooted in that small, prewar army and, without further external influence, the Air Corps might well have went onwards as a ground appendage. The external influence did, however, persist and, as it was in the form of the Commander-in-Chief, it proved irresistible. The President wanted a bomber force; when cajolery failed, he merely ordered the Secretary of War to get 500 bombers per month off the production lines; as . . .

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<sup>60</sup> Memo, COL Orlando Ward, Secretary of the General Staff, for the CAC, the Assistant Chief of Staff (ACS), the G-1, the G-2, the G-3, the G-4, et alia, March 28, 1941, subject: [Bestowal of Authority to Air Corps for Most Air Corps Matters].

<sup>61</sup> Memo, LTC Robert A. Case, G-4, for the G-4, circa March 28, 1941, subject: Status of Tactical Airplanes, March 1, 1941.

"I know of no single item of air defense today that is more important than a large four-engine bomber capacity."<sup>62</sup>

Industry did not, and could not, salute and execute, but that separate Air Corps channel, opened in March, widened. On June the 20th, 1941, less than seven weeks later, the Air Corps started towards recognition with the establishment of the Army Air Forces as a supposed equal partner with the ground arms; approximate equality for air followed in the wholesale reorganization of the Army on March 9, 1942. By that time the enormity of the tasks placed by the Chief Executive on the Air Corps had convinced General Marshall that air men should have positions commensurate with these burdens; the subsequent creation of the Joint and Combined Chiefs of Staff and the inclusion on the latter of a British Air Marshal made it necessary to promote General Arnold to a rank equal to that of his aerial counterpart, a rank incidentally also on a par with that of General Marshall, the Chief of Staff of the Army, and of Admiral Ernest J. King, the Chief of Naval Operations.<sup>63</sup>

The Air Corps' rapid advances throughout organic aviation's precursor period proved harmful to the cause of air observation. First and foremost, the elevation of this heretofore junior member of the combat arms to the apex of the lot also, unfortunately, not only rendered it forever the upstart but, in addition, made it the front-runner in the intraservice odium standings.

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<sup>62</sup>Ltr, The President to the Secretary of War, May 4, 1941, subject: [Production of 500 Four-Engined Bombers Each Month].

<sup>63</sup>Mark S. Watson, Chief of Staff: Prewar Plans and Preparations, Washington, 1950, pp. 293-294, 297.

The effect was a malignancy that would soil obligatory air and ground interplay for decades. For the short term, it made Air Corps reluctance to surrender part of its mission to the Field Artillery seem to the latter to be obstinacy of the highest order. It was not, however, as the Field Artillery would suggest, hesitancy on the part of the Air Corps to surrender even a small, unwanted morsel to the province of the ground arms, rather it was an Air Corps understanding of the inadequacy of the small airplanes and of the inevitable disenchantment of the ground arms with those vehicles, coupled with its realization that a separate arrangement would have to function to address those personnel and logistical onl attendant to the establishment of yet another air arm.

The Field Artillery, and its Army Ground Forces (AGF) aerial advocate successor, never admitted that the acquisition of a fleet of observation airplanes was aught but positive. Once in hand, moreover, possessiveness took hold. The small number of SRL airplanes would multiply a thousand-fold, and their applications would so expand that artillery fire adjustment would become only about a tenth of all of their many chores. This augmentation of ground arm tasks soon led to an increase of ground arm users; General Arnold's apprehension of separate air forces for the Infantry, the Cavalry, and so forth began to take solid form.<sup>64</sup> Over four decades later, on February 15, 1984, the ground arms would, belatedly, recognize its air force, according branch status to the Aviation Corps.<sup>65</sup>

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<sup>64</sup> Notes on a Conference held in the Office of the Chief of Staff, Secretariat, January 14, 1942, at 10:50 a.m., subject: Puddle Jumpers.

<sup>65</sup> Film Release, Office of the Assistant Secretary of Defense (Public Affairs), subject: New Army Aviation Corps, Washington, February 15, 1984.

### The Lines Drawn

Perforce the Field Artillery would have to become the antecedent for this revival of the "old" Air Corps to take place. This entailed, as a preliminary, the advancement, in the late Winter of 1941, of its hitherto internal position on this matter to the Army staff . . .

"Recently the Chief of Field Artillery has recommended the incorporation in that arm of air observation. After consideration this recommendation was not acceptable [sic], but all concerned were cautioned that immediate steps would be taken to vitalize this essential element of combat. Whether or not [sic] this will produce the required results remains to be seen, but certainly there should be no letting up on the procurement side to provide planes suitable for artillery adjustment."

Although the staff denied artillery control of airplanes, it took into special account artillery's particular problems, . . .

"The most effective artillery fire . . . is that which is observed. The next most effective is that carried out through so-called transfer. The effectiveness of a transfer of fire is dependent on registration. Registration in term [sic] is dependent on observation. This observation in some theaters and some situations is dependent on observation. The effectiveness of the arms fire can be correspondingly estimated as three to one if registration has been accomplished . . .

[By contrast,] the excessive cost of the ammunition to obtain the same results without registration is tremendous."

. . . it acknowledged that there had been confusion about ground support aircraft, . . .

"There has been some confusion as to the planes designed primarily to maneuver over our own troops, to adjust artillery fire, and the ones designed to reconnoiter in enemy territory . . . "

. . . and it suggested that recent British reports about the uselessness of light airplanes over the battlefield were one-sided . . .

" . . . the British, who at no time had air superiority . . . [during] the Dunkirk incident indicated that all types of observation planes had a very difficult time on the battlefield. . . . On the other side reports from Spain indicated that . . . [any] aviation [action] over well-trained troops extending up to 5000 feet is exceedingly dangerous for hostile planes. . . . As a corollary to this, the same area should be relatively safe for our own observation planes.

"Few reports have been received [Writer's Note: Thanks to Britain's excellent censorship.] for the side of air superiority in the current conflict, but one . . . in the March Atlantic Monthly

indicates that observation planes as such were used by the Germans. For us to assume that the enemy will have air superiority denying us an observation is certainly a defeatist point of view."

Then, its own present and past experience to the contrary, the staff, with a typically American forgetfulness of history, offered the recently acquired Verdurand-Field Artillery version of the previous two decades . . .

"During the last twenty years the cooperation between the Air Corps and the Field Artillery in the matter of air observation has been far from satisfactory, due to the fact that over-emphasis is placed on combat aviation involving pursuit and bombardment. A large part of this same combat aviation (bombardment) is, on the other hand, essentially long range artillery. Aside from possibly the submarine, it is the most expensive means yet devised of delivering ammunition to an enemy target. It is so expensive that, other things being equal, it is certainly inadvisable to neglect to provide the artillery with all the means possible for the effective and cheaper means of delivering ammunition on its target."<sup>66</sup>

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<sup>66</sup> Memo, COL Orlando Ward for General Moore, March 17, 1941, subject: Observation Aviation.

### The Game Widens and Intensifies

One of the major reasons for the subsequent expansion of inherent ground aviation almost surely derived from our oft-noted villain, intraservice rivalry. Certainly if the Field Artillery had any likelihood of the acquisition of a cache of airplanes, then the other ground arms would each want one, too--on the double-quick. Indeed, as early as January the 24th, 1941, the Chief of Infantry informed the War Department of his " . . . want[s] in the way of observation aviation."<sup>67</sup> The escalation of ground arms interest did not elude General Marshall. Preoccupied with mandated preparations for war, the chief decided to take several measures to ensure that observation aviation, especially, was a meaningful participant in the vast Army war games slated to run from June to November in various sections of the Confederacy:

"The state of combat readiness of Corps and Division Observation Squadrons is a matter of great concern . . . there are many difficulties which must be corrected . . . [and I'll do it].

"[As for the ground arms,] You do your part . . . [in recognition of our insufficiencies]. The missions required [of] observation [should] be primarily to develop team work between the airplane and the interests of the ground under battle or maneuver conditions. The use of the airplane and combat

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<sup>67</sup>Ltr, Chief of Infantry to the AC, January 24, 1941, subject: Air operations for staff officers or commanders.

personnel for other purposes should be held to an absolute minimum."<sup>68</sup>

General Marshall's insistence that observation airplane partake of the manoeuvres and that they do so as naught but observers took into account two hard truths. One, the few airplanes on-hand required concentration, and, two, the sorry readiness state of the current observation squadrons meant that, even when massed, the airplanes' flying hours would be precious. General Marshall, General McNair, and others, could only await airplane deliveries to address the former, . . .

"We all realize that the air participation in the coming corps maneuvers will be quite limited, for reasons beyond our control."<sup>69</sup>

. . . but close, personal attention could perhaps mitigate the limitations of the latter.

Luckily for the chief, a mitigator was already at hand. He was Colonel William E. Lynd, AC. Cited for gallantry on an observation mission in the Great War, Colonel Lynd retained his connexions with this subject, showing an especial interest in tactics for the employment of observation service and in the command relationships of this service with ground units.<sup>70</sup> Colonel Lynd had much to do; recent inspections, such as the surprise one in April on the

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<sup>68</sup>Ltr, GEN George C. Marshall, CS, to Lieutenant General (LTG) John L. DeWitt, Commanding, 4th Army, Presidio, June 21, 1941, subject: [Observation Aviation in the 1941 Maneuvers].

<sup>69</sup>Ltr, LTG Leslie J. McNair, CS, GHQ, U.S. Army, to Commanding General (CG), GHQ Air Force, June 5, 1941, subject: Air Participation in Corps and Army Training.

<sup>70</sup>Robert F. Futrell, Command of Observation Aviation: A Study In Control Of Tactical Airpower, United States Air Force (USAF) Historical Division, Research Studies Institute, Air University, September 1956, pp. 10, 12-13.

116th Observation Squadron, revealed severe deficiencies, as expected, in every category, particularly airplanes.<sup>71</sup>

For much of May and June of 1941 Colonel Lynd frequented air fields. Major stopovers included Mitchel Field, home of the IV Air Corps,<sup>72</sup> Bolling Field,<sup>73</sup> and March Field.<sup>74</sup> Concurrent checks and preparatory tests at other fields complemented Lynd's labours.<sup>75</sup> Lynd summarized his findings in a

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<sup>71</sup> Ltr, COL Beebe, Inspector General Department (IGD), to the CS, April 11, 1941, subject: Surprise Inspection of 116th Observation Squadron, Jacksonville, Florida.

<sup>72</sup> 1) Ltr, COL Lynd to CS, GHQ, U.S. Army, May 7, 1941, subject: Additional Notes on visit of Col. Lynd to IV Air Corps, May 5, 1941. 2) Ltr, CS, GHQ, U.S. Army, to the CAC, May 15, 1941, subject: Report by COL Lynd on IV Air Corps.

<sup>73</sup> Ltr, COL Lynd, to the CG, Bolling Field, May 16, 1941, subject: Inspection of GHQ Organizations.

<sup>74</sup> 1) Ltr, CS, GHQ, U.S. Army, to CG, 3rd Air Force, May 26, 1941, subject: Arrival of Col. Lynd at March Field on May 27th to observe 14th Observation [sic] Squadron. 2) Memo, COL William E. Lynd, for the CS, GHQ, U.S. Army, May 26, 1941, subject: Testing of [1st, 102nd, 105th, and 110th] Observation Squadrons. 3) Ltr, COL Lynd, to CS, GHQ, U.S. Army, June 3, 1941, subject: Inspection of 14th Reconnaissance [sic] Squadron.

<sup>75</sup> 1) Ltr, CG, 2nd Army to CS, GHQ, U.S. Army, May 12, 1941, subject: MTP [Mobilization Training Program] Test for 1st Observation Squadron. 2) Ltr, MAJ Old, GHQ, U.S. Army, to CS, GHQ, U.S. Army, May 23, 1941, subject: MTP tests of the 105th Illinois National Guard and 1st Regular Army Observation Squadrons by the 2nd Army [at Marshall Field, Fort Riley, Kansas]. 3) Ltr, CG, Fort Bragg, to CS, GHQ, U.S. Army, June 5, 1941, subject: Attached aviation from 112th Observation Squadron will use radiomount for Both night and day missions. 4) Ltr, CG, IV Army Corps, to CS, GHQ, U.S. Army, June 6, 1941, subject: Training test of 118th Observation Squadrons 6, 9 and 10. 5) Ltr, AG, WD, to CS, GHQ, U.S. Army, June 19, 1941, subject: Test of Light Planes.

note to GHQ, U.S. Army.<sup>76</sup> Inspections continued into August of 1941.<sup>77</sup>

### Air Corps Participation

Preoccupied with the White House-mandated formation of many powerful groups of combat airplanes and the need to work them into teams, the Air Corps did not initially contemplate the assignment of much of its current strength of only four groups and three squadrons<sup>78</sup> to the Army maneuvers. As of April the 3rd, 1941, Air Corps allotments for the exercises consisted of:

<u>Army(ies)</u>	<u>Air Corps Units</u>
4th	17th Bombardment Group (Medium) <sup>1</sup> One Squadron, 20th Pursuit Control <sup>1</sup>
2nd and 3rd	One Squadron, 3rd Bombardment Group (Light) <sup>2</sup> One Squadron, 31st Pursuit Group (Interceptor) <sup>2</sup> One Squadron, 23rd Bombardment Group (Medium) <sup>3</sup> One Squadron, 8th Pursuit Group (Interceptor) <sup>3</sup>

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<sup>76</sup> Memo, COL William E. Lynd, to the AG, GHQ, U.S. Army, July 1, 1941, subject: Testing of Observation Squadrons.

<sup>77</sup> For example, see: 1) Ltr, Headquarters, VI Army Corps, to Air Officer, 4th Army, August 15, 1941, subject: General Report of GHQ Test of 152nd Observation Squadron, Fort Devens Airport, Ayers, Massachusetts. 2) Ltr, Headquarters, II Army Corps, to CS, GHQ, U.S. Army, August 16, 1941, subject: Report of GHQ Inspection of 104th Observation Squadron, Nottingham Field, Fredericksburg, Virginia, August 8, 1941. 3) Ltr, Headquarters, 1st Army Corps, to CS, GHQ, U.S. Army, August 29, 1941, subject: Test of Observation Squadron.

<sup>78</sup> Memo, MG George H. Brett, CAC, to the Honorable Robert A. Lovett, Assistant Secretary of War (Air) (ASWA), June 1, 1941, subject: Combat Planes Available to GHQ Air Force, May 31, 1941.

Army(ies)

Air Corps Units

1st

Two Squadrons, 27th Bombardment Group  
(Light)<sup>3</sup>

Two Squadrons, 8th Pursuit Group  
(Interceptor)<sup>3</sup>

Two mixed squadrons of Pursuit and  
Bombardment, one from Fort Bragg<sup>3</sup>  
and the other from Charlotte

<sup>1</sup>Under 2nd Air Force

<sup>2</sup>Under GHQ Air Force

<sup>3</sup>Under 3rd Air Force<sup>79</sup>

The Air Corps maintained, until early July, that it did not have enough  
" . . . basic and advanced planes . . . " available for maneuvers.<sup>80</sup> This  
limited participation, however, referred only to the Air Force Combat Command  
(AFCC), as General Arnold noted:

"General Robinson: How will the Air Corps be used in  
coming maneuvers?

"General Johnson: Not at all. According to General  
Emmons the GHQ Air Force isn't ready.

"General Arnold: That isn't strictly correct because  
we have Brereton's outfit which is ready to work any  
time, in fact, has been working. However, [sic] I  
notice the missions with the Armored Force have all

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<sup>79</sup>1) Ltr, BG C. W. Russell, CS, Headquarters, GHQ Air Force, to GHQ, U.S.  
Army, Army War College (AWC), April 3, 1941, subject: Corps and Army Training.  
2) Ltr, LTC[?] Clyde L. Hyssong, AG, [GHQ, U.S. Army], March 24, 1941, same  
subject.

<sup>80</sup>1) Ltr, COL William E. Lynd, for the CS, GHQ, U.S. Army, AWC, June 3, 1941,  
subject: Air Participation in Corps and Army Training. 2) Ltr, BG Harry L.  
Twaddle, AG, for the Army Air Corps (AAC) et alia, June 17, 1941, subject:  
[Number of Airplanes Available for Maneuvers].

been using observation planes. General Emmons referred to the GHQ Air Force.

"General Robinson: If we aren't going to use planes in the maneuvers we'd better prepare public opinion for it."<sup>81</sup>

Not willing to, among other reasons, undergo a public relations fiasco, General Arnold added all manner of Air Corps support to the much-touted field events. The new combat components consisted of four pursuit groups, two medium bombardment groups, and two light bombardment groups.<sup>82</sup> Later additions meant the inclusion of the Pursuit (P)-38, the P-39, the P-40, and the P-53 [sic - surely the P-43]; bomber types consisted of the Attack (A)-20 and the A-24, and the Bomber (B)-25. General Arnold subsequently accentuated this emphasis,<sup>83</sup> and his concern aroused the notice of others in the Air Corps.<sup>84</sup>

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<sup>81</sup> Notes on Deputy Chief of Staff Conference, Secretariat, May 20, 1941.

<sup>82</sup> Memo, LTG H. H. Arnold, Deputy Chief of Staff (DCS), for the CG, GHQ Air Force, June 19, 1941, subject: Increased Participation of Air Force Units in 1941 Maneuvers.

<sup>83</sup> 1) Ltr, LTG H. H. Arnold, Chief, AAF to CG, AFCC, July 16, 1941, subject: Participation of Air Force Units in 1941 maneuvers. 2) Ltr, MG [sic] H. H. Arnold, Chief, Army Air Forces (AAF), to the CG, AFCC, August 19, 1941, same subject.

<sup>84</sup> 1) Ltr, LTG Delos C. Emmons, CG, AFCC, to the Chief, AAF, circa June 21, 1941, subject: Increased Participation of Air Force Units in 1941 Maneuvers. 2) Ltr, LTG Delos C. Emmons, CG, AFCC, to CS, GHQ, U.S. Army, June 26, 1941, subject: Letter re Increased Participation of Air Force Units in 1941 maneuvers. 3) Ltr, Headquarters, AFCC, to CS, GHQ, U.S. Army, circa June 30, 1941, subject: Air Force Combat Command Participation in 1941 Maneuvers. 4) Ltr, BG C. W. Russell, Chief of Air Staff, GHQ Air Force [sic], to CS, GHQ, U.S. Armies [sic], AWC, July 23, 1941, subject: Corps Training, Air-Ground. 5) Ltr, LTC Clyde L. Hyssong, AG, GHQ, U.S. Army, to CS, GHQ, U.S. Army, July 26, 1941, subject: [Conference on Aerial Events Regarding the United Kingdom and Increased Air Force Participation in the Planned Maneuvers]. 6) Ltr, MG J. Ullo, AG, to CS, GHQ, U.S. Army, July 16, 1941, subject: Increased Participation of Air Force Units in 1941 Maneuvers. 7) Ltr, Headquarters, 3rd Bombardment Squadron (Light), AFCC, Savannah Army Air Base (SAAB), Georgia, to CG, 17th Bombardment Wing, AFCC, SAAB, July 5, 1941, same subject.

The exertions of General Arnold had two effects:

One, the more immediate, was the commitment of relatively large numbers of aircraft to the maneuvers. For the Louisiana portions, for example, the 2nd Air Task Force employed an average of 270 airplanes per day, and it executed over 7,000 missions for the August the 11th through September the 30th, 1941, course of the movements.<sup>85</sup> Such force entailed many logistical difficulties, one of the most pronounced of which was the use of widely-scattered airdromes.<sup>86</sup>

The other effect was the placement of yet more stress on the use of observation aviation. Such aviation had, from the onset, gained nearly the highest emphasis;<sup>87</sup> 36 Observation, Reconnaissance and Photographic, squadrons were to be ready by August of 1941.<sup>88</sup> Each Army Corps was to receive a Headquarters and Headquarters Squadron and three tactical squadrons; each Corps commander was

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<sup>85</sup> AFCC, Report of the 2nd Air Task Force Participation in [sic] Louisiana Maneuvers, Washington, circa October 1, 1941.

<sup>86</sup> 1) Ltr, CS, GHQ, U.S. Army, to CG, 2nd Army, July 5, 1941, subject: Use of Airdromes during September maneuvers. 2) Radio Message (Radre), CS, GHQ, U.S. Army, to CG, AAF, August 7, 1941, subject: Airdromes to be occupied by observation squadrons during Louisiana maneuvers . . . 3) Radre, CG, Ft. Knox, to CS, GHQ, U.S. Army, August 9, 1941, same subject. 4) Ltr, CS, GHQ, U.S. Army, to CG, 2nd Army, August 6, 1941, subject: [Required Fields]. 5) Radre, CG, 2nd Army, to CS, GHQ, U.S. Army, August 7, 1941, [same subject]. 6) Radre, CG, 2nd Army, to CS, GHQ, U.S. Army, August 8, 1941, subject: [Assessment of Airdromes and Types of Airplanes Required].

<sup>87</sup> Ltr, Under Secretary of War (USW), for the Chief of Ordnance and the CAC, January 3, 1941, subject: Attached Letter of President of the Infantry Board.

<sup>88</sup> Notes on Chief of Staff Conference [of February the 11th], Secretariat, February 12, 1941.

to have tactical, technical, and administrative control over the squadrons entrusted to him.<sup>89</sup>

Per the combat squadrons, these initial offerings became insufficient. Fitting past practice, the first call was not for more observation airplanes per se, but for the heavier reconnaissance aircraft:

"d. In addition to the use of observation aviation it is strongly recommended that Reconnaissance units be attached to combat aviation commands. Their use would facilitate and speed up the supporting efforts."<sup>90</sup>

#### Observation Force Establishment

##### General

Any augmentations aside, there were more than a few logistical barriers to the constitution of an observation fleet of the size already prescribed. As COL Lynd and his cohorts had discovered, and as the ASWA had acknowledged, there were lacks of airplanes, ancillary equipment, pilots, mechanics, and training.<sup>91</sup> For one of a packet of eleven squadrons--the 22nd, the 97th, the 100th, the 107th,

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<sup>89</sup> 1) Memo, MAJ William D. Old, for the CS, GHQ, U.S. Army, May 27, 1941, subject: Observation Groups. 2) Ltr, COL William E. Lynd, AC, to CS, GHQ, U.S. Army, subject: Observation Groups.

<sup>90</sup> 1) Ltr, MAJ Leon W. Rogers, AC, Commanding, Eighth Bombardment Squadron (Light), SAAB, to CG, 3rd Bombardment Group (Light), SAAB, July 2, 1941, subject: Participation of Eighth Bombardment Squadron (Light) in the Tennessee Maneuvers. 2) Ltr, CG, Headquarters, 3rd Bombardment Group (Light), AFCC, SAAB, to CG, 17th Bombardment Wing, AFCC, SAAB, July 5, 1941, letter cited.

<sup>91</sup> Memo, ASWA, for the USW, March 19, 1941, subject: [Effect and Use of Airplanes for the Infantry, Artillery, Cavalry et alia].

the 109th, the 111th, the 113th, the 118th, the 120th, and the 153rd—to be committed to the games, only the 97th had its full complement of airplanes.<sup>92</sup>

Redressment of the observation airplane shortages loomed above all. This concern had two aspects:

O-49s

One was securement of those machines called for by the approved, and funded, airplane program. Due to interwar torpidity and the aforementioned loss of four months to a fund cut, the as-yet-to-be standard O-49s only slowly started to come aboard in early 1941. Moreover, the Regular Army had to compete for these newcomers with both the National Guard Bureau, which wanted 91 O-49s,<sup>93</sup> and with a power that would later receive an equal priority with the Air Corps, the British Empire. In January, 1941, the British Purchasing Commission, which already carried the favour of the Administration, requested two O-49s as trial machines.<sup>94</sup>

A second O-49 contract, W535 ac-17910, of February 1941, revised the total purchases of O-49s to 324 by adding 182 airplanes to the 142 bought in 1940; the latter pact cost \$3,735,890.02, though it only called for 10 percent in spare parts, not the 100 percent Air Corps standard.<sup>95</sup>

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<sup>92</sup> Memo, Chief, Training and Operations Division, OCAC, to the Chief, Materiel Division, OCAC, June 30, 1941, subject: O-49 and Short-Range Liaison Airplanes for Maneuvers.

<sup>93</sup> And 90 Curtiss O-52s: Memo, BG Davenport Johnson, Chief, Training and Operations, OCAC, for MG Arnold, CAC, January 27, 1941, subject: O-49s and O-52s for the National Guard.

<sup>94</sup> Ltr, Chief, Materiel Division, to the CAC, January 27, 1941, subject: Clearance of Order by British Purchasing Commission for Two Stinson Airplanes.

<sup>95</sup> Memo, Chief, Materiel Division, for the Executive, OCAC, February 24, 1941, subject: Contract W535 ac-17910.

By mid-August, few of these 324 were available,<sup>96</sup> and the numbers would ever remain insufficient, as the O-49s could not stay apace of the cries for them. By September of 1941, the AFCC observed that 2,000, not 200, were required, counting spares:

<u>Number of Elements</u>	<u>Military Element</u>	<u>Number of Airplanes Per Element</u>	<u>Required Number of Aircraft</u>
5	Headquarters and Headquarters Squadron Army Observation Group	6	30
9	Headquarters and Headquarters Squadron Corps Observation Group	3	27
22	Medium Observation Group	6	132
27	Light Observation Group	18	486
110	Aviation Base Squadron	1	110
104	Materiel Squadron	2	<u>208</u>
	Total		993
	100% Spares		<u>993</u>
			1,986 <sup>97</sup>

#### O-47s and O-52s

There were, as discussed in the precursor book to this publication, no problems in the upper two categories of observation procurement--Observation,

<sup>96</sup> Only 89 of which had undergone delivery; 20 more awaited propellers: Ltr, Mr. T. P. Wright, Assistant Chief, Aircraft Branch, Office of Production Management (OPM), to the USW, August 11, 1941, subject: [O-49 Orders and Deliveries]. Note: The letter also took note of a British request for more O-49s.

<sup>97</sup> 1) Ltr, LTG Leslie J. McNair, CS, GHQ, U.S. Army, to the AG, September 5, 1941, subject: Light Observation Airplanes. 2) Ltr, CG, Headquarters, AFCC, Bolling Army Air Field, for the Chief, AAF, September 25, 1941, subject: [Too Few O-49s].

Corps and Division, and Army Reconnaissance. Per programme, the Air Corps bought 164 O-47As and 74 O-47Bs in Fiscal Year 1937, 1938, and 1939, and 203 O-52s in FY 1938.<sup>98</sup> The general ground clamour for both of these models and their almost logical appearance in the development chain precluded any curtailment of their procurement and, furthermore, their O-53 successor was already under evaluation.<sup>99</sup>

#### A Lack of O-49s

The O-49 category, then, remained the only numerically deficient one. Such a shortage, a commonplace in the years since the Great War, increasingly became ever more intolerable, particularly with the commotion which the Field Artillery was arousing. With limited fabrication facilities, the O-49 plant at Nashville was unable to do much about increasing production, and the issue of augmentation of the SRL airfleet with cheap commercial light airplanes arose as early as January of 1941. On the 23rd of that month, the Materiel Division presented the current list of candidates:

<u>Model</u>	<u>State</u>
O-49	Ready to Go
O-54 (C-105)	Can Buy
Ercoupe	Can Buy at \$3,900 Each
Fairchild "24"	Five Weeks Delay; \$7,750 Each; Field Artillery Does Not Like

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<sup>98</sup>1) Howard K. Butler, Observation Aircraft, 1935-1945, History Study Number 9, St. Louis, 1988, pp. 1-2. 2) Memo, BG R. C. Moore, G-4, for the CS, February 20, 1941, subject: Military Characteristics of the Observation, Corps and Division, Type Aircraft.

<sup>99</sup>Ltr, AG to the OCAC, November 16, 1940, subject: [O-53s Instead of A-20s for Observation].

General Echols firmly believed that the OCFA, " . . . which was primarily responsible for starting this whole project . . . , " was off on a fool's errand, as no other airplane but the O-49 would suffice. He, also, however, realized that the Field Artillery would have to discover this for itself, so that these tests . . .

"[p]ossibly . . . will be the quickset way of convincing them that the extremely light commercial airplane is not going to be the solution to their problem . . . [and that for] all around [usefulness,] . . . only [the] O-49 [would do.]"<sup>100</sup>

General Echols was wrong. ST results, contrary or no, did not address the issue which had already assumed a nearly complete shape: an air arm of its own for the Field Artillery. The Echols approach of allowing the Field Artillery to "see for itself" merely complemented the cannoneers' resolve. In the same month, for example, the Air Corps, in course of a discussion above of the 13 heavy and 13 light airplanes in an observation squadron, noted that the . . .

" . . . using services [of these squadrons] are not satisfied with our method of training observers and that he [General Brett] therefore directed that steps be taken to permit the Artillery or the Infantry and the Cavalry to furnish their own observers

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<sup>100</sup> Memo, BG Oliver P. Echols, Chief, Materiel Division, for MAJ B. W. Chidlaw, Chief, Experimental Engineering Section, Materiel Division, OCAC, January 23, 1941, subject: Present Status of Service Test of Liaison (Artillery Adjustment) Airplanes by the Field Artillery at Fort Sill, Oklahoma.

. . . [We should, therefore,] change the laws for such training."<sup>101</sup>

Such advice would, as we have seen,<sup>102</sup> backfire.

#### Summation

The lack of O-49s would have been, in itself, to reiterate, part of the everyday had it been so a year or two earlier. The more than seven-fold increase in the Army in 1940, the pressure put upon the aircraft industry by the civilian newcomers in the War Department, the temporary SRL airplane fund cut, and, even though akin to a saddle burr, the carping of the Field Artillery, all joined to render the staid Army staff somewhat more susceptible to a quest for succor for the O-49. Susceptibility, however, did not mean support; if the stuffy staff could, and it did, stubbornly resist political puissance to fabricate a large bomber force, than it surely would, in no wise, accommodate a request by one combat arm to duplicate a specialized function of another.

The ensuing search for O-49 reinforcements mirrored both a continuation of staff resistance to the Field Artillery and a requirement to find enough observation airplanes for the June 2nd through November 30th maneuvers in 1941. The staff temporarily succeeded in its first aim and failed in its second. The staff would not, and did, bend to the guns without direct intervention from the civilian leadership of the War Department, and attempts to secure an adequate observation airplane prevented the wholesale acquisition of the cheap, low-powered commercial light airplanes, the desperate efforts of a well-connected lobbyist notwithstanding. The O-49 was not to deploy in peace.

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<sup>101</sup> Reading and Routing Sheet, Chief, Experimental Engineering Section, Materiel Division, to General Brett, January 16, 1941, subject: Airplanes for Observation Squadron.

<sup>102</sup> See Study Number 18 of this series.